ANDREYEV, A.B. (continued) .... Card 2.

YAKOVLEV, A.V.; ANDREYEV, Ye.S., retsenzent, redaktor; BERKENGEYM, B.M., retsenzent, redaktor; BERMAN, L.D., retsenzent, redaktor; BOLTINSKIY, V.N., retsenzent, redaktor; BONCH-BRUYEVICH, V.L., retsenzent, redaktor; VELLER, M.A., retsenzent, redaktor; VINOGRADOV, A.V., retsenzent, redaktor; GUDTSOV, N.T., retsenzent, redaktor; DEGTYAREV, I.L., retsenzent, redaktor; DEM'YANYUK, F.S., retsenzent; redaktor; DOBROSMYSLOV, I.N., retsenzent, redaktor; YELANCHIK, G.M. retsenzent, redaktor; ZHEMOCHKIN, D.N., retsenzent, redaktor; SHURAVCHENKO, A.N., retsenzent, redaktor; ZLODEYEV, G.A., retsenzent, redaktor; KAPLUNOV, R.P., retsenzent, redaktor; KUSAKOV, M.M., retsenzent, redaktor; LEVINSON, L.Ye., [deceased] retsenzent, redaktor; MALOV, N.N., retsenzent, redaktor; MARKUS, V.A. retsenzent, redaktor; METELITSYN, I.I., retsenzent, redaktor; MIKHAYLOV, S.M., retsenzent; redaktor; OLIVETSKIY, B.A., retsenzent, redaktor; PAVLOV, B.A., retsenzent, redaktor; PANYUKOV, N.P., retsenzent, redaktor; PLAKSIN, I.N., retsenzent, redaktor; RAKOV, K.A. retsenzent, redaktor; RZHAVINSKIY, V.V., retsenzent, redaktor; RINBERG, A.M., retsenzent; redaktor; ROGOVIN, N. Ye., retsenzent, redaktor; RUDENKO, K.G., retsenzent, redaktor; RUTOVSKIY, B.N., [deceased] retsenzent, redaktor; RYZHOV, P.A., retsenzent, redaktor; SANDOMIRSKIY, V.B., retsenzent, redaktor; SKRAMTAYEV, B.G., retsenzent, redaktor; SOKOV, V.S., retsenzent, redaktor; SOKOLOV, N.S., retsenzent, redaktor; SPIVAKOVSKIY, A.O., retsenzent, redaktor; STRAMENTOV, A.Ye., retsenzent, redaktor; STRELETSKIY, N.S., retsenzent, redaktor;

(Continued on next card)

ANDREYEV, A.V., (continued) .... Card 3.

TRET'YAKOV, A.P., retsenzent, redaktor; FAYERMAN, Ye.M., retsenzent,
redaktor; KHACHATYROV, T.S., retsenzent, redaktor; CHERNOV, H.V.,
retsenzent, redaktor; SHERGIN, A.P., retsenzent, redaktor; SHESTO-
PAL, V.M., retsenzent, redaktor; SHESHKO, Ye.F., retsenzent, redaktor;
SHCHAPOV, N.M., retsenzent, redaktor; YAKOBSON, M.O., retsenzent,
redaktor; STEPANOV, Yu.A., Professor, redaktor; DEM'YANYUK, F.S.,
professor, redaktor; ZNAMENSKIY, A.A., inzhener, redaktor; PLAKSIN,
I.N., redaktor; RUTOVSKIY, B.N. [deceased] doktor khimicheskikh nauk,
professor, redaktor; SHUKHGAL'TER, L. Ya, kandidat tekhnicheskikh
nauk, dotsent, redaktor; BRESTINA, B.S., redaktor; ZNAMENSKIY, A.A.,
redaktor.

(Continued on next card)

ANDREYEV, A.V. (continued) .... Card 4.

[Concise polytechnical dictionary] Kratkii politekhnicheskii slovar'. Redaktsionnyi sovet; IU.A.Stepanov i dr. Moskva, Gos. izd-vo tekhniko-teoret. lit-ry, 1955. 1136 p. (MLRA 8:12)

1. Chlen-korrespondent AN SSSR (for Plaksin)
(Technology--Dictionaries)

BARMASH, A., kand. tekhn. nauk

Problems of improving the quality of canned food. Mias. ind. SSSR. 30 no.4:54-55 '59.
(Meat, Canned) (MIRA 12:12)

BARMASH, A.

Canned "Paté." Mias.ind. SSSR 33 [i.e.34] no.2:53 '63.(MIRA 16:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut myasnoy promyshlennosti.
(Meat, Canned)

BARMASH, A.I.

Requirements concerning the quality of canned meat. Kons.i
ov.prom. 15 no.2:22-24 F '60. (MIRA 13:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut myasnoy
promyshlennosti.
(Meat, Canned--Standards)

BARMASH, A. I., starshiy nauchnyy sotrudnik

New raw and semiprocessed tongue products. Obshchestv.pit. no.6: 37 Je '60. (MIRA 13:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut myasnoy promyshlennosti.

(Tongue)

BARMASH, A.I.

Specializing the production at canning factories. Kons.i ov.prom. 15 no.3:36-37 Mr '60. (MIRA 13:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut myasnoy promyshlennosti.

(Canning industry)

BARMASH, A., kand.tekhn.nauk

Estimation of the strength of tin plate from the tin content of canned food. Mias.ind. SSSR 31 no.6:24-25 '60. (MIRA 13:12)
(Tin cans) (Food, Canned)

BARMASH, A.I.

Fundamentals of a new technology in producing pate´from raw meat. Izv. vys. ucheb. zav.; pishch. tekh. no.5:53-55 '61. (MIRA 15:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut myasnoy promyshlennosti.

(Cookery (Meat))

BARMASH, A.I.

Standardization of canned meat. Standartizatsiia 26 no.2:41-42
F '62. (MIRA 15:2)

(Meat, Canned -Standards)

BARMASH, A.I., kand. tekhn. nauk; POLETAYEV, T.N., mladshiy nauchnyy sotrudnik; BARSUKOVA, A.I., mladshiy nauchnyy sotrudnik

Technology of the mass production of a wide assortment of canned meat. Trudy VNIIMP no.12:122-127 '62.

(MIRA 18:2)

BARMASH, A.I., kand.tekhn.nauk; POLETAYEV, T.N., mladshiy nauchnyy sotrudnik

New technology for the preservation of liver pate. Trudy VNIIMP no.14:57-67 '62. (MIRA 16:8)
(Sausages--Preservation)

BARMASH, A.I., kand.tekhn.nauk; BARSUKOVA, A.P., mladshiy nauchnyy sotrudnik; GUSAKOVSKIY, Z.P., inzh.,red.; OCHKIN, V.A., inzh., red.; GORBATOV, V.M., red.; SINITSYN, K.D., red.; LAVROVA, L.P., red.; SHIPOV, V.P., red.; KARPOV, V.I., red.; RUMYANTSEVA, Ye.P., tekhn. red.

[Technological instructions for the production of meat and meat products] Tekhnologicheskie instruktsii po proizvodstvu miasa i miasnykh produktov. Moskva, 1962. Sec. 11.[Canned meat] Konservy.: 1962. 641 p. (MIRA 16:6)

1. Moscow. Vsesoyuznyi nauchno-issledovatel'skiy institut myasnoy promyshlennosti. 2. Sotrudniki Vsesoyuznogo nauchno-issledovatel'skogo instituta myasnoy promyshlennosti (for Barmash, Barsukova).

(Meat, Canned)

BARMASH, A.I.

Specialization and improvement of the technology of the production of canned meat and meat-and-vegetables is an important factor for smoothing the conditions of seasonal work. Kons. i ov.prom. 18 no.9:33-34 S '63. (MIRA 16:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut myasnoy promyshlennosti.

(Canning industry)

BARMASH, A.I., kand. tekhn. nauk; ADUTSKEVICH, V.A., kand. vet. nauk;
TRUDOLYUBOVA, G.B., mladshiy nauchnyy sotrudnik; [illegible], [illegible],
mladshiy nauchnyy sotrudnik

Technology of the production of canned tongue. Trudy VNIIMP no.11:
87-105 '62. (MIRA 18:2)

AKHMEDOV, A.M., prof., doktor veter. nauk; GONCHAROV, G.D., doktor biol. nauk; DURASOV, V.I.; ZAGAYEVSKIY, I.S., prof., doktor veter. nauk; KUKHARKOVA, L.L.; BARMASH, A.I., kand. tekhn. nauk; POZHARISKAYA,L.S., kand. tekhn. nauk; LAPTEV, F.P.; LIBERMAN, S.M., kand. tekhn. nauk; PETROVSKIY, V.P., inzh.; MIRONOV, A.N., prof., doktor veter. nauk; MALYSHEV, K.B., kand. veter. nauk; NIKITIN, B.P., inzh.; POLYAKOV, A.A., prof., doktor veter. nauk; RUSAKOV, V.N.; TARSHIS, M.G., kand. veter. nauk; SHUR, I.V., prof., doktor veter. nauk; YARNYKH, A.M., red.

[Manual on veterinary and sanitary expertise and hygiene in the processing of animal products] Rukovodstvo po veterinarno-sanitarnoi ekspertize i gigiene pererabotki zhivotnykh produktov. Izd.2., ispr. i dop. Moskva, Kolos, 1965. 426 p. (MIRA 18:6)

ALEKSANDROVA, N.N.; BEDULEVICH, T.S.; Prinimala uchastiye:BARMASH, E.A.

Fatty acid composition of Soviet vegetable oils. Vop. pit. 24 no. 6:20-22 N-D '65 (MIRA 19:1)

1. Kafedra gigiyeny pitaniya (zav. - prof. K.S. Petrovskiy) I Moskovskogo ordena Lenina meditsinskogo instituta imeni Sechenova.

BARMASH, V. M. PA 28/49T37

USSR/Engineering Jun 48
Vibrators, Concrete
Construction Equipment

"High-Frequency Vibrator With Flexible Shaft," V. M. Barmash, Engr, 1¼ pp

"Mekh Stroi" No 6

Equipment first manufactured in 1947 is capable of 3,000 vibrations per minute. Later, the "Krasnyy Mayak" Factory, Yaroslavl, manufactured a vibrator which could be used for settling cement for about 2 meters below the surface of the top level, and operated at 6,950 vibrations per minute.

[redacted] 28/49T37

BARMASH, V. N.

Barmash, V. N. "A machine for smoothing and ironplating the surface of 1-41 concrete", Mekhanizatsiya stroit-va, 1949, No. 5, p. 20.

SO: U-4393, 19 August 53, (Letopis 'Zhurnal 'nykh Statey', No. 22, 1949).

BARMASH, V. N.

20653 Barmash, V.N. Glubinnyy vibrator I-50. Mekhanizatsiya stroit-va, 1949, No. 6, s. 20-21

SO: LETOPIS ZHURNAL STATEY - Vol. 28, Moskva, 1949

BARMASH, V. N.

"Woodworking, Light-Weight, Electric Mortising Machine, Model 104," Mekh. stroi., 9, No.3, 1952

BARMASH, V.N., inzhener.

Automatic tools. Mekh.stroi.12 no.10:23-25 O '55. (MLRA 9:1)
(Power tools)

BARMASH, V.N., inzhener.

Increase the output and improve the quality of construction tools. Mekh.stroi. 13 no.5:22-25 My '56. (MLRA 9:8)
(Power tools)

BARMASH, V.N., inzhener.

New mechanical tools and machines for construction and finishing work. Stroi.i dor.mashinostr. no.11:25-30 N '56. (MLRA 9:12)
(Building machinery)

BARMASH, V.N., inzhener.

Problem of standardizing electric power tools. Stroi. i dor. mashinostr. 1 no.4:17-20 Ap '56. (MLRA 10:1)
(Power tools)

BARMASH, Vadim Nikolayevich; LEVIN, David Isaakovich; FREYDBERG, Vladimir Zinov'yevich; NOVIKOV, M.P., kand.tekhn.nauk, retsenzent; KORSAKOV, V.S., prof., doktor tekhn.nauk, red.; SOKOLOVA, G.F., tekhn.red.; EL'KIND, V.D., tekhn.red.

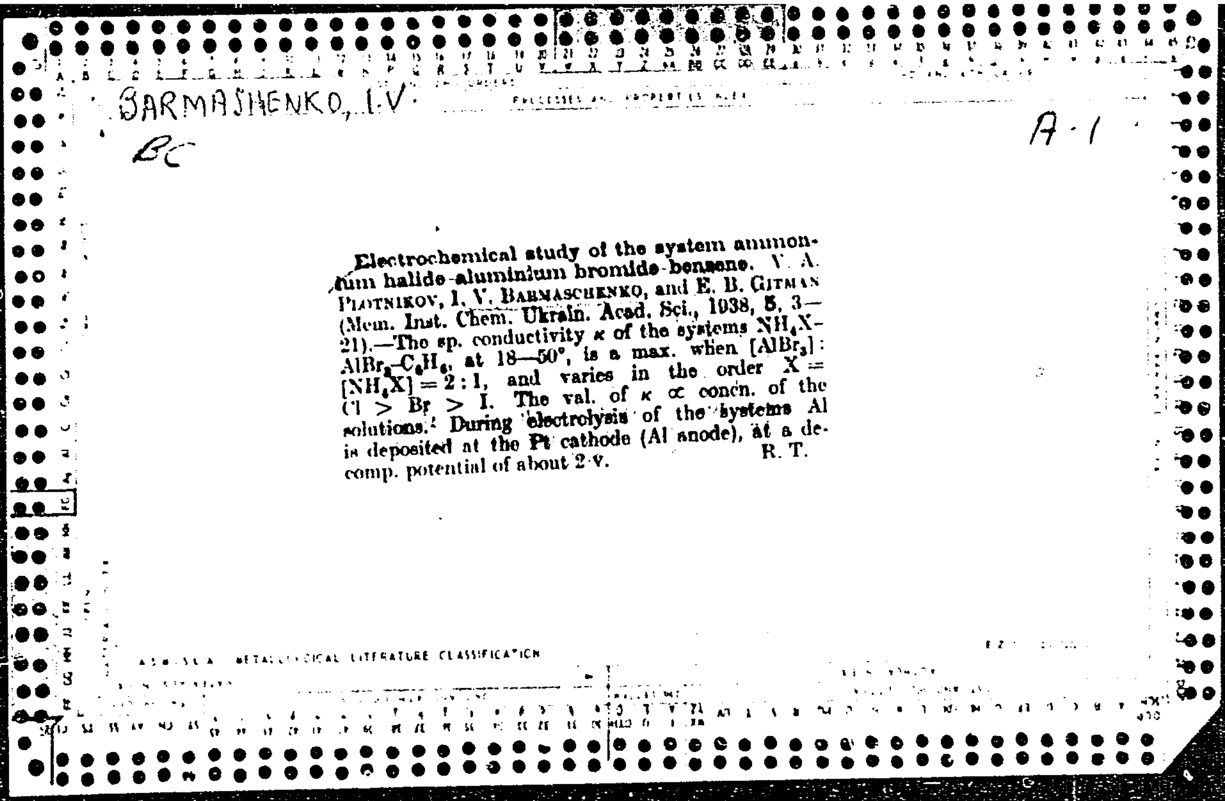
[Portable tools for assembling and finishing operations] Ruchnye mashiny dlia montazhnykh i otdelochnykh rabot. Moskva, Gos. nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1960. 264 p. (MIRA 13:4)

(Building--Tools and implements)

BARMASH, V.N.

Mechanized tools for assembling operations. Mashinostroitel: no.3:28-31 Mr '62. (MIRA 15:3)

(Power tools)



BARMASHENKO, I.V.

BC

PROCESSES AND PROPERTIES INDEX

A-1

**Electrochemical study of the system ammonium halide-aluminium bromide-benzene.** V. A. Plotnikov, I. V. Barmaschenko, and E. B. Gitman (Mem. Inst. Chem. Ukrain. Acad. Sci., 1938, 5, 3—21).—The sp. conductivity κ of the systems $NH_4X$-$AlBr_3$-$C_6H_6$, at 18—50°, is a max. when $[AlBr_3]:[NH_4X] = 2:1$, and varies in the order X = Cl > Br > I. The val. of κ ∝ concn. of the solutions. During electrolysis of the systems Al is deposited at the Pt cathode (Al anode), at a decomp. potential of about 2 v. R. T.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

BARMASHENKO, I. [V.]

BC

A-1

**Electrochemical investigation of the system aluminium bromide–ammonium halide–ethyl bromide.** V. A. PLOTNIKOV and I. BARMASCHENKO (Mem. Inst. Chem. Ukrain. Acad. Sci., 1938, 5, 363—374).—Addition of $NH_4Cl$, $NH_4Br$, and $NH_4I$ increases the sp. conductivity ($\kappa$) of solutions of $AlBr_3$ in EtBr. With a const. $[NH_4X]/[AlBr_3]$ ratio, $\kappa$ is a max. when $[AlBr_3]/[EtBr]$ is 0·5. Anomalous vals. of $\kappa$ are obtained when $NH_4I$ is added to an equimol. mixture of $AlBr_3$ and EtBr. The exact compositions of mixtures yielding max. $\kappa$ are recorded. Electrolysis of these solutions causes deposition of Al on the cathode. The decomp. potential in all three systems (~2·1 v.) is in accord with the val. for $AlBr_3$ calc. by Thomson's formula. J. W. S.

COMMON ELEMENTS

MATERIALS INDEX

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

BARMASHENKO, I. B.

**Hydrogen overvoltage on porous iron electrodes upon addition of certain alloying metals.** N. N. Voronin, I. B. Barmashenko, and D. S. Nadezhdin (Kiev Poltech. Inst.). *Ukrain. Khim. Zhur.* 20, 182-93(1954)(in Russian).—Porous electrodes, prepd. by pressing and baking Fe powder or a mixt. of Fe powder with other metals, gave less H overvoltage during electrolysis in 1*N* NaOH at 30° at a cathodic c.d. of 1000-3000 amp./sq. m. and 0.3-0.4 v. than smooth Fe electrode. Of those additives which decreased overvoltage, Mo was of greatest interest, followed by Co and W. Ni addn. lowered $\eta$ markedly only at low c.ds. H overvoltage decreased with increased additive concn., and as additive became progressively farther removed from the external electrode surface. Change in character of the Fe electrode porosity had little effect upon the $b$ coefficient of the Tafel equation, but introduction of Co, W, or Mo additives in particular lowered the $b$ coeff. Of considerable practical interest may be the use of electrodes possessing thin metal powder layers of low overvoltage pressed on the working surface; a Co layer, after baking for 1 hr. at 750°, was sufficiently stable, but Mo and W layers were torn off by H evolution. A W layer became stable after being baked at 1000° for 12 hrs. Such an electrode was characterized by low overvoltage (0.5 v. less than for smooth Fe electrodes at high c.ds.) and by a small polarization curve gradient ($b$ = 0.081). With increase in electrolyte temp., overvoltage was lowered about 2.5 mv./degree on a porous Fe electrode and 3 mv./degree upon addn. of Mo. With curves $\eta$ — log $i$ for porous Fe electrodes or mixts. with other metals, there was observed with increased c.ds. a deflection toward the c.d. logarithmic axis, for which there were grounds for assuming that this deflection was related to reduction of the oxides which were present on the electrode surface.

Clayton F. Holoway

BARMASHENKO, I. B

USSR/General Questions

A

Abs Jour: Ref Zhur-Khimiya No. 7, 1957, 21842

Author : Barmashenko, I. B., Zosimovich, D. I.
Inst : None
Title : Nikolay Nikolayevich Voronin

Orig Pub: Ukr. Khim. Zh. 1956, 22, No. 5, 697-700

Abstract: A mecrologue of N. N. Voronin (1892-1956), chairman of department of technology of chemical manufacturing of the Kiev Polytechnic Institute. Bibliography of his works is included.

Card 1/1

BARMASHENKO, I.B., dots., kand.tekhn.nauk

Overvoltage on porous cathodes. Izv. KPI 20:44-52 '57. (MIRA 11:3)
(Cathodes) (Overvoltage)

5(1,2)

AUTHORS: Lavrenko, V. A., ~~Barmashenko, I. B.~~ SOV/153-58-4-15/22

TITLE: Investigation of the Electrochemical Production of Ammonium Persulfate Using Porous Silver Cathodes Depolarized by Air ( Issledovaniye elektrokhimicheskogo polucheniya persul'fata ammoniya s primeneniyem poristykh serebryanykh katodov, depolyarizuyemykh vozdukhom)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, 1958, Nr 4, pp 77 - 82 (USSR)

ABSTRACT: If in the electrolysis dissolved oxygen is present in the electrolyte an improvement of the cathode potential is obtained. The discharge process of the hydrogen ions is substituted by the reduction of oxygen. The electric reduction takes place in several stages which are different for acid and alkaline media. The practical use of this improvement of the cathode potential in the depolarization of the hydrogen separation owing to oxygen as well as the production of hydrogen peroxide met with considerable difficulties. They could be overcome by using porous electrodes with air blowing (Refs 2-7).

Card 1/4

Investigation of the Electrochemical Production of Ammonium Persulfate Using Porous Silver Cathodes Depolarized by Air SOV/[illegible]

The authors expected a considerable improvement of the potential in connection with the properties of the silver electrode; they also did not exclude that hydrogen peroxide would be formed under the most favorable conditions. In the production process mentioned in the title the values of the cathode potential decrease in the substitution of the usual lea [illegible] ast cathode by a porous silver cathode with air blowing were determined. The potentials of these electrodes were measured at different current densities but under the same conditions of electrolysis. The experimental method is described and a scheme of the apparatus used is given (Fig 1). The electrolysis was either carried out without diaphragm or with a passing electrolyte. The authors arrived at the following conclusions: 1) In the transition from the lead to the mentioned silver cathodes a considerable improvement of the cathode potential is obtained. 2) The utilization of the current on a silver cathode is higher by about 2% the working voltage in the bath is,

Card 2/4

Investigation of the Electrochemical Production of SOV/153-59-4-13/22
Ammonium Persulfate Using Porous Silver Cathodes Depolarized by Air

however, lower by 0,7 - 1,0 V. On the average the current consumption is lower by 7,5%. 3) In electrolysis without diaphragm the specific current consumption increases whereas the concentration of the active oxygen in the electrolyte decreases. 4) In a continuous electrolysis with a passing electrolyte the current consumption per kg of active oxygen decreases. If a metalloceramic silver electrode with air depolarization is used persulfate can be produced with a current consumption of 19-20 kWh per 1 kg of active oxygen. There are 3 figures, 3 tables, and 9 references, 7 of which are Soviet.

ASSOCIATION: Kiyevskiy politekhnicheskiy institut (Kiyev Polytechnical Institute) Kafedra tekhnologii elektrokhimicheskikh proizvodstv (Chair of Technology of Electrochemical Entérprises)

Card 3/4

5(4)

SOV/80-32-4-21/47

AUTHORS: Barmashenko, I.B., Shapoval, V.I.

TITLE: Hydrogen Overvoltage on a Porous Iron-Nickel Cathode (Vodorodnoye perenapryazheniye na poristom zhelezo-nikelevom katode)

PERIODICAL: Zhurnal prikladnoy khimii, 1959, Vol 32, Nr 4, pp 827-833 (USSR)

ABSTRACT: Hydrogen overvoltage [illegible] in part the electric power [illegible] in the industrial electrolysis of water solutions. Voronin, Barmashenko, and Nadezhdina [Ref. 1] have pointed out a possibility of reducing the hydrogen overvoltage on iron porous cathodes with slight impurities of cobalt, nickel, tungsten and molybdenum. The purpose of the present investigation was selecting such a material for cathodes which leads to the maximum reduction of overvoltage and which is most advantageous in economical respect for electrolysis of aqueous solutions of salts, alkalis, etc. For this investigation, cathodes were manufactured of iron and nickel powders by the

Card 1/4

SOV/80-32-4-21/47

Hydrogen Overvoltage on a Porous Iron-Nickel Cathode

metalloceramic method at a pressure of 1,400 kg/cm$^2$ in hydrogen atmosphere at 750°C. Relationships of hydrogen overvoltage on current densities were investigated within a range from 100 to 3,000 amp/m$^2$ at temperatures from 20 to 80°C. The installation used for hydrogen overvoltage determination is shown in Figure 1 and results of experiments in Graphs 2 - 8. Conclusions drawn from these experiments are as follows: 1. The reduction of hydrogen overvoltage on a porous cathode at current density of 1,000 to 3,000 amp/m$^2$ and at a temperature of 20°C amounts to 0.45 v (in comparison with a smooth iron electrode; 2. The considerable reduction of overvoltages when nickel is added to iron electrodes takes place at temperatures 20 and 40°C. At 80°C, the effect is less pronounced; 3. The temperature gradient of overvoltage decreases with an increase in current density above 1,000 amp/m$^2$. On the average, overvoltage decreases by 2.5 to 3.0 mv at the rise of temperature by one degree; 4. It is assumed that the reduction of overvoltage on the porous iron-nickel cathode occurs due to the increase of surface and due to formation on the non-homogeneous surface of active portions

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Hydrogen Overvoltage on a Porous Iron-Nickel Cathode

on which hydrogen liberates in electrolysis with a lesser power consumption than on the smooth electrode; 5. The overvoltage of hydrogen on an electrode made of a mixture of powders may be lower than on any of the components taken separately; 6. For testing under semi-industrial conditions, porous iron electrodes with the pressed-on 1-mm thick layer of 20% Fe and 80% Ni are recommended. Dimensions of these cathodes are determined [illegible] the design and overall dimensions of the electrolyzer and the nature of the electrolysis process.

Card 3/4 There are 7 graphs, 1 diagram, 1 table and 6 Soviet references.

SOV/80-32-4-21/47

Hydrogen Overvoltage on a Porous Iron-Nickel Cathode

ASSOCIATION: Kiyevskiy politekhnicheskiy institut (Kiyev Polytechnical Institute)

SUBMITTED: September 30, 1957

Card 4/4

87423

S/153/60/003/004/027/040/XX
B020/B054

26.1610

AUTHORS: Barmashenko, I. B., Gorbachevskaya, L. A.

TITLE: Hydrogen Overvoltage on Porous Iron- and Iron-nickel Cathodes in Electrolysis of a Sodium Chloride Solution

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, 1960, Vol. 3, No. 4, pp. 699 - 706

TEXT: The authors studied the process mentioned in the title at current densities of from 100 to 5000 a/$m^2$ and at temperatures of from 20 to 80°C. They measured the electrode potential by a direct method according to the usual compensation scheme with an "Etalon" ("Standard") type potentiometer and a normal Weston cell. The emf of the chain was measured in the experiments: the porous cathode investigated is a reference half-cell (oxygen-mercury electrode in 1 N NaOH solution). A NaCl solution saturated at room temperature (5.5 N or 320 g/l) was used as electrolyte. Before electrolysis, a small amount of solid salt was put into the space around the electrodes in the electrolyzer; the

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Hydrogen Overvoltage on Porous Iron- and Iron-nickel Cathodes in Electrolysis of a Sodium Chloride Solution

S/153/60/003/004/027/040/XX
B020/B054

salt did not dissolve during the experiment. Fig.2 shows the curves for the dependence of hydrogen overvoltage ($\eta_{H_2}$) on the logarithm of current density (i) on porous annealed and not annealed iron- and iron-nickel electrodes at 20, 40, 60, and 80°C. Data for a smooth iron electrode are given for comparison. Fig.3 shows that the temperature coefficient of hydrogen overvoltage reaches maximum values in the temperature range from 20 to 40°C, and decreases with rising temperature. An introduction of nickel reduces $\eta_{H_2}$, as compared with the porous iron electrode, by 0.15 - 0.2 v, and by 0.4 v as compared with smooth iron electrodes (Table). In adaptation to conditions in industrial electrolysis, measurements were made in a vessel with flow-type electrolyte (Fig.4), in contrast to the vessel with immobile electrolyte as shown in Fig.1. Thus, it was possible to attain a constant temperature in the electrolyzer with a maximum of 40-45°C at the minimum current density investigated. Fig.5 shows the dependence of hydrogen overvoltage ($\eta_{H_2}$) on the logarithm of current density (i) in electrolysis with a

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Hydrogen Overvoltage on Porous Iron and Iron-nickel Cathodes in Electrolysis of a Sodium Chloride Solution

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flow-type electrolyte. The curve shows that, under these conditions, $\eta_{H_2}$ on porous Fe-Ni electrodes increases with rising current density; the relation deviates from linearity at low and high current densities, as had been observed in experiments with an immobile electrolyte. The authors mention L. L. Kuz'min, L. V. Borisova, V. S. Poroykova, N. N. Voronin, D. S. Nadezhdin, V. S. Daniel'-Bek, M. A. Loshkarev, A. M. Ozerov, O. S. Ksenzhek, V. V. Stender, P. D. Lukovtsev, S. D. Levina, I. P. Fedot'yev, A. G. Pecherskaya, Zhivotinskiy, and Stroganov. There are 5 figures, 1 table, and 23 Soviet references.

ASSOCIATION: Kiyevskiy politekhnicheskiy institut, kafedra tekhnologii elektrokhimicheskikh proizvodstv (Kiyev Polytechnic Institute, Department for the Technology of the Electrochemical Industry)

SUBMITTED: October 17, 1958

Card 3/3

87507
S/073/60/026/001/004/021
B004/B054

54600 1273, 1043, 1145

AUTHORS: Kononchuk, T. I. and Barmashenko, I. B.

TITLE: Electrochemical Behavior of Metals of the Vanadium Subgroup
1. Hydrogen Overvoltage

PERIODICAL: Ukrainskiy khimicheskiy zhurnal, 1960, Vol. 26, No. 1
pp. 25-30

TEXT: The hydrogen overvoltage of V, Ta, and Nb was studied in connection with the investigation of depolarization by oxygen. The authors used smooth wire electrodes and porous, disk-shaped electrodes molded from metal powder (grain size about 50 $\mu$) with addition of $NH_4HCO_3$ at recrystallization temperature in vacuo ($10^{-4}$ mm Hg), which were fused into glass funnels and could be blown through the $H_2$ (the production of smooth wire electrodes with V was impossible). The authors used 99% Nb 98% Ta, and 99.7% V. 1 N $H_2SO_4$ or 1 N NaOH served as electrolyte. Platinum net was used as anode. It was found that a constant potential was established

Card 1/4

87507

Electrochemical Behavior of Metals of the Vanadium Subgroup. 1. Hydrogen Overvoltage

S/073/60/026/001/004/021
B004/B054

very slowly, and that the reproducibility was influenced by many factors. The curves for the first polarization were shaped differently from the curves for repeated polarization. Therefore, mean values from several experiments were taken. The steady state of the electrode is that with an oxidized surface. The potential of polished, smooth electrodes approaches slowly that of the cathodically oxidized electrode. Hydrogen overvoltages measured are shown in Fig. 5 ($H_2SO_4$) and Fig. 6 (NaOH). The inclination coefficient of Ta and Nb in the acid electrolyte is 0.12, in the alkaline electrolyte 0.14 and 0.15, respectively. The same inclination of the straight line in the case of porous and smooth Ta and Nb permitted a calculation of the true surface of porous electrodes. It was 200 times larger than the geometric surface in the case of Ta, 300 times larger in the case of Nb. Vanadium electrodes showed a potential jump. The inclination of the first section is 0.04, that of the second, 0.14. This is explained by two processes: dissolution of the metal in the electrolyte, and change of the cathode surface during polarization. Porous Nb and Ta electrodes in an alkaline medium showed a nonlinear relationship between H overvoltage and logarithm of current density. V. V. Stender is mentioned.

Card 2/4

87507

Electrochemical Behavior of Metals of the Vanadium Subgroup. 1. Hydrogen Overvoltage

S/073/60/026/001/004/021
B004/B054

There are 8 figures, 1 table, and 6 references: 5 Soviet and 1 British.

ASSOCIATION: Kiyevskiy ordena Lenina politekhnicheskiy institut (Kiyev "Order of Lenin" Polytechnic Institute)

SUBMITTED: April 23, 1958

Legend to Fig. 5: 1: V, porous, 2: Ta, porous, 3: Nb, porous, 4: Ta, smooth, 5: Nb, smooth.

Legend to Fig. 6: 1: V, porous, 2: Nb, smooth, 3: Ta, smooth.

Card 3/4

27210
S/081/61/000/014/006/030
B106/B110

54700 1273 also 1274

AUTHORS: Barmashenko, I. B., Zakharchenko, I. P.

TITLE: Hydrogen overvoltage on a porous nickel cathode

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 14, 1961, 87, abstract 14Б604. (Izv. Kiyevsk. politekhn. in-ta, v. 30, 1960, 25 - 32)

TEXT: In continuation of former papers (RZhKhim, no. 6, 1955, 9274; no. 1, 1956, 495), the authors studied the hydrogen overvoltage $\eta$ on porous unsintered nickel cathodes in a 15% NaOH solution in the range of $i = 100 - 5000$ a/m$^2$ at 20 - 90°C. The dependence of $\eta$ on log i is expressed by the Tafel equation with the constants $a = 0.53 - 0.68$ v (at 20°C) and $b = 0.11 - 0.17$ v. $\eta$ decreases with increasing temperature. The character of the curves ($\eta$, log i) is assumed to be related with the structural change of the porous cathode. [Abstracter's note: Complete translation.]

Card 1/1

VORONIN, N.N.; IGNATENKO, Ye.Kh.; BARMASHENKO, I.B.

Electrochemical behavior of activated porous nickel electrodes.
Zhur.prikl.khim. 34 no.9:2043-2047 S '61. (MIRA 14:9)
(Electrodes, Nickel) (Electrochemistry)

BARMASHENKO, I.B., kand.tekhn.nauk; IGNATENKO, O.Kh. [Ihnatenko, O.Kh.], kand.
tekhn.nauk; VRZHOSEK, G.G. [Vrzhosek, H.H.], kand.tekhn.nauk;
LAZEBNIK, V.V.

Oxidation of aluminum spray coating on porcelain and its imitation
gold finishing. Leh.prom. no.3:34-40 Je - Ag '62. (MIRA 16:2)

1. Kiyevskiy politekhnicheskiy institut (for Barmashenko, Ignatenko,
Vrzhosek). 2. Ukrainskiy nauchno-issledovatel'skiy institut stekol'noy
i farforo-fayansovoy promyshlennosti (for Lazebnik).
(Aluminum) (Oxidation) (China painting)

BARMASHENKO, I.B., kand. tekhn. nauk; VORONIN, M.M. [deceased]

Copper coating of mirror glass. Leh. prom. no.2:16-20 Ap-Je '63.
(MIRA 16:7)

1. Kiyevskiy ordena Lenina politekhnicheskiy institut.
(Amalgams) (Mirrors)

VORONIN, N.N. [Voronin, M.M.], prof.; IGNATENKO, Ye.Kh., kand. tekhn. nauk; BARMASHENKO, I.B., kand. tekhn. nauk

Oxygen depolarization on porous electrodes with activated nickel. Khim. prom. [Ukr.] no.2:19-22 Ap-Je '63. (MIRA 16:8)

1. Kiyevskiy politekhnicheskiy institut.

L 23412-65 EWG(j)/EWT(m)/EPF(c)/EPR/EWP(t)/EWP(b) Pr-4/Ps-4 IJP(c) JD
ACCESSION NR: AP5000507 S/0080/64/037/011/2415/2420

B

AUTHOR: Ignatenko, Ye, Kh.; Barmashenko, I. B.

TITLE: Cathodal preparation of hydrogen peroxide

SOURCE: Zhurnal prikladnoy khimii, v. 37, no. 11, 1964, 2415-2420

TOPIC TAGS: hydrogen peroxide, hydrogen peroxide synthesis, electrolysis, electrode material

ABSTRACT: The role of various factors influencing the concentration of hydrogen peroxide during the cathode process is described. The authors obtained effective concentrations of $H_2O_2$ by using porous nickel electrodes (cathodes) covered by a mixture of nickel, activated charcoal and resin glue. Dry electrodes permit easier passage of air (oxygen) to the working surface, and thus promote the formation of $H_2O_2$ more than wet electrodes. The addition of gutta-percha was also found to increase the synthesis of $H_2O_2$. Similarly, the greatest concentration of $H_2O_2$ was obtained when the flow of current through the solution (5N KOH) was $i_k$ = 200 m A/cm$^2$. An increase in air pressure also led to an increase in the concentration of the $H_2O_2$ formed in the catholyte. When oxygen was substituted for air, the concentration of $H_2O_2$ increased even more. When the amount of

Card 1/2

L 23412-65
ACCESSION NR: AP5000507

$H_2O_2$ in the catholyte increases, there should be a parallel increase in alkalinity, and it is shown in the paper that during the electrolysis the number of OH-ions decreases as $HO_2^-$ increases. It is also noted that the decomposition of $H_2O_2$ is accelerated as the medium becomes less alkaline: While the average decomposition of $H_2O_2$ in 5N KOH is 0.02 gram-equivalents/hour, in 0.5N KOH it is 0.033 gram-equivalents/hour. However, the fastest decomposition (0.05 gram equivalents/hour) results from the catalytic effect of the electrode (without polarization due to the presence of activated charcoal). On the other hand, the resistance of $H_2O_2$ increases with the current at $i_k$ = 10 m A/cm$^2$ and when oxygen is supplied. At any rate, the presence of diverse cations (Li, Na, K) has a varying effect on the potential of the electric field, thus influencing the concentration of $HO_2^-$. Under the conditions created with a current intensity of $i_k$ = 200 m A/cm$^2$, the maximum concentration of $H_2O_2$ was 119 g/liter. Orig. art. has: 2 tables and 10 figures.

ASSOCIATION: Kiyevskiy politekhnicheskiy institut (Kiev polytechnical institute)

SUBMITTED: 15Nov62 ENCL: 00 SUB CODE: IC

NO REF SOV: 005 OTHER: 007

Card 2/2

L 31110-66 EWT(m)/ETC(f)/EWG(m)/T/EWP(t)/EWP(z)/EWP(b) IJP(c) DS/JD/HW

ACC NR: AP6002218 (A) SOURCE CODE: UR/0080/65/038/012/2827/2831

AUTHOR: Barmashenko, I. B.; Ignatenko, Ye. Kh.; Zakharchenko, I. P.

57
B

ORG: Kiev Polytechnic Institute (Kiyevskiy politekhnicheskiy institut)

TITLE: Hydrogen overvoltage on a porous cathode during electrolysis of sodium hydroxide and sodium chloride solutions

SOURCE: Zhurnal prikladnoy khimii, v. 38, no. 12, 1965, 2827-2831

TOPIC TAGS: sodium hydroxide, sodium chloride, ~~electrochemistry~~, cathode polarization, ~~iron~~ nickel alloy, ferroalloy, metal powder, electrode, electrolysis

ABSTRACT: The effect of salt concentration on overvoltage ($\eta H_2$) of porous iron-nickel electrode was studied during electrolysis of aqueous solutions containing sodium hydroxide or sodium chloride. The disc-like electrodes (30-31 mm in diameter and 5 mm in thick) were prepared by pressing mixtures of iron and nickel powders (2000 kg/mm$^2$) followed by calcination for 1 hr at 750-800° C in hydrogen atmosphere. The electrolysis experiments were conducted at 20°, 40°, 60°, and 80° C using 0.1-10 normal aqueous salt solutions and current density of 20-500 A/m$^2$. In the case of

Card 1/3 UDC: 541.13 + 546.33'131

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L 31110-66

ACC NR: AP6002218

electrolysis of NaCl solutions, the hydrogen overvoltage was found to be substantially lower for porous iron-nickel electrodes than for nonporous iron-nickel electrodes. The dependence of hydrogen overvoltage upon NaOH concentration is shown in Fig. 1. It was found that for electrolysis of NaOH solutions using porous Ni-Fe cathode, the lower the hydrogen overvoltage the higher is the NaOH concentration. At a given NaOH concentration the $\eta_{H_2}$ declines with increasing temperature and it increases with increasing current density. Orig. art. has: 3 figures and 2 tables.

SUB CODE: 07,11/ SUBM DATE: 01Feb64/ ORIG REF: 013/ OTH REF: 000

Card 2/3

L 31110-66

ACC NR: AP6002218

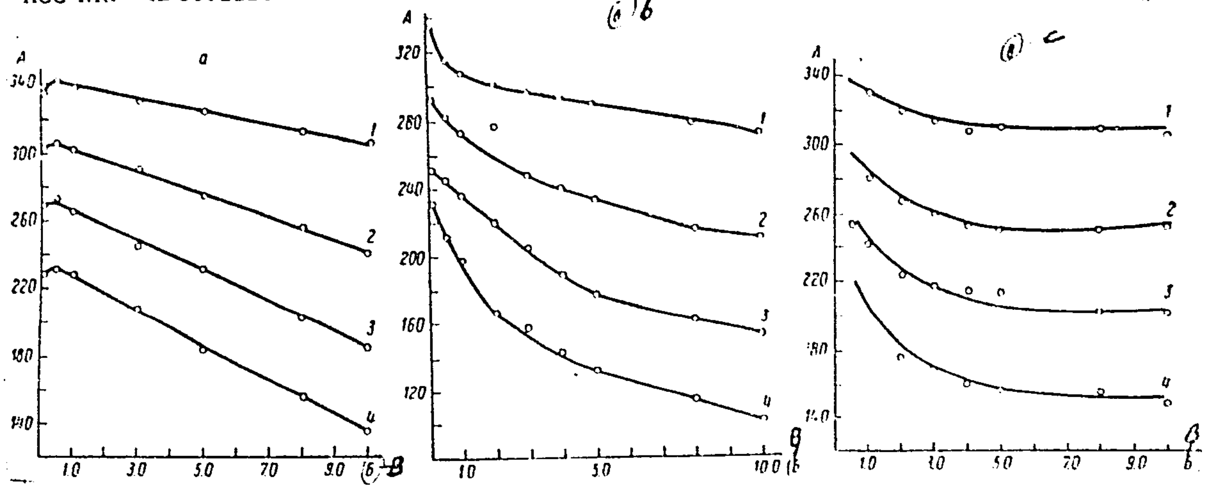


Fig. 1. Hydrogen overvoltage as a function of NaOH concentration during electrolysis of various temperatures at 600 A/m$^2$ current density using iron-nickel electrodes. A - hydrogen overvoltage (mV); B - normality of NaOH solution; 1 - 20° C; 2 - 40° C; 3 - 60° C; 4 - 80° C; a - 20 % Ni + 80 % Fe electrodes; b and c - 80 % Ni + 20 % Fe electrodes; a and c - noncalcined porous electrodes; b - calcined porous electrode.

Card 3/3

BARMASOV, P., predsedatel'.

Improve the work of province committees. V pom.profaktivu 14 no.14:21-23 Jl '53. (MLRA 6:7)

1. Sverdlovskiy oblastnyy sovet profsoyuza. (Trade-unions)

[illegible]

[illegible]

BARMASOV, P.

New forces will arrive. Sov.profsoiuzy 18 no.23:16-17 D '62.
(MIRA 15:12)

1. Zaveduyushchiy organizatsionno-instruktorskim otdelom Vsesoyuznogo tsentral'nogo soveta professional'nykh soyuzov.
(Trade unions—Officers)

BARMENKOV, A. S.

Investigation of the Strains of Leaf Rust of Wheat in USSR

~~SO - SIRA SI 90-53, 15 December 1953~~

*Zashchita Rastenii*, no. 5, 1935, pp. 9-10. 421 P942

SO - SIRA SI 90-53, 15 December 1953

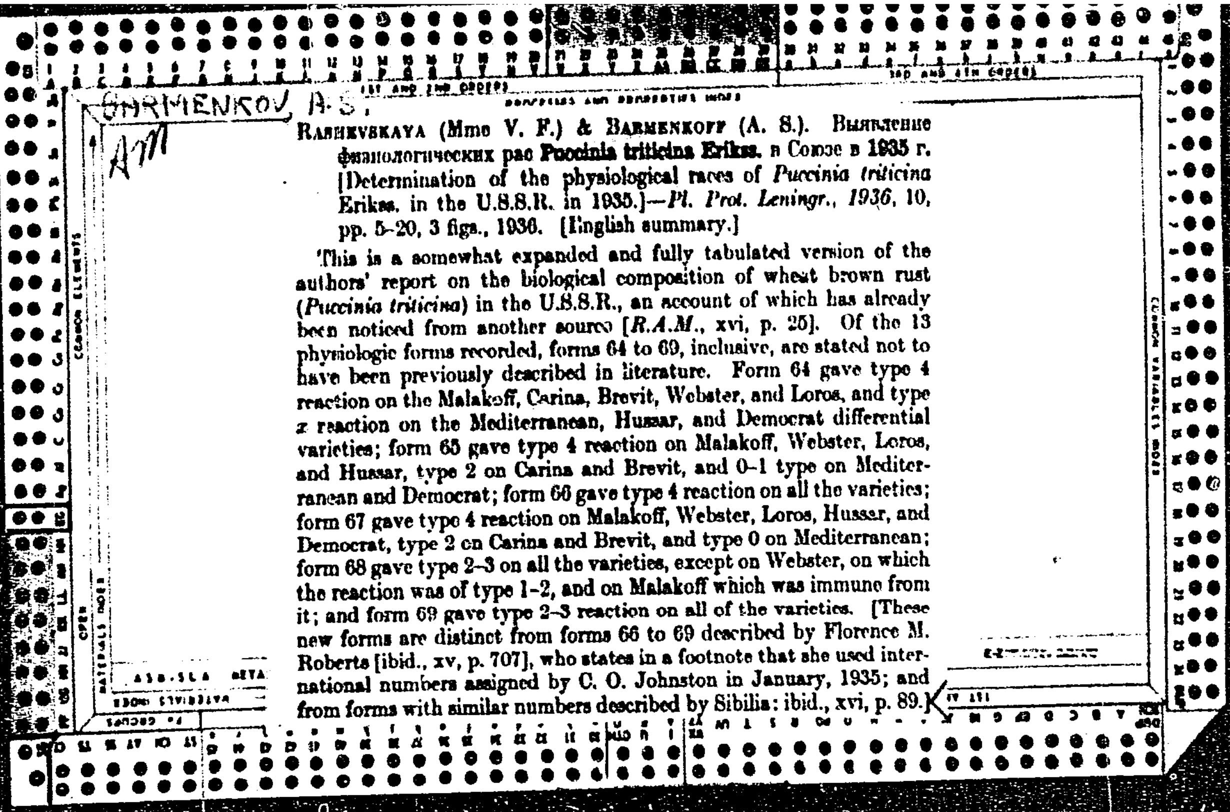
BARMENKOV, A.S.

AM

**Barmenkoff (A. S.).** Прибор для изучения реакции растения на паразита. [An apparatus for the study of the reaction of plants to parasitic organisms.]—*Pl. Prot. Leningr.*, *1935*, 7, pp. 148-149, 1 fig., 1935. [Received May, 1936.]

The apparatus described in this paper is stated to have been successfully used in 1935 in Russian phytopathological laboratories in studies on the physiological races of brown wheat rust (*Puccinia triticina*), and it is believed that it may also be useful in investigations on the inheritance of rust resistance in cereals. It consists of a closed glass tube, 16 cm. long and 2 cm. in diameter, internally divided by glass partitions into six chambers, each partition being perforated by a central hole, 0·6 cm. in diameter. Each compartment is further provided with a bordered lateral aperture, 1·2 cm. wide. One leaf on a growing cereal plant, after gentle rubbing between the fingers to remove its waxy covering, is threaded through all the holes of the partitions and the tube fixed in position by means of a wooden prop stuck into the ground; the partition holes are then carefully plugged with cotton-wool, so as to isolate the compartments from one another, after which the enclosed leaf sections are each inoculated with the rust form to be tested, and the lateral openings in the tube are also plugged with cotton-wool or a rubber stopper. The apparatus is left thus for a period of time sufficient for the establishment of infection, after which the lateral openings are unplugged and covered with cheesecloth to admit external air to the leaf sections. The apparatus should not be removed before the end of the experiments.

ASB SLA METALLURGIC



BARMENKOV, A. S.

AM

**Rashevskaya** (Mme V. F.) & **Barmenkoff** (A. S.). Выявление физиологических рас **Puccinia triticina Erikss.** в Союзе в 1935 г. [Determination of the physiological races of *Puccinia triticina* Erikss. in the U.S.S.R. in 1935.]—*Pl. Prot. Leningr., 1936*, 10, pp. 5-20, 3 figs., 1936. [English summary.]

This is a somewhat expanded and fully tabulated version of the authors' report on the biological composition of wheat brown rust (*Puccinia triticina*) in the U.S.S.R., an account of which has already been noticed from another source [*R.A.M.*, xvi, p. 25]. Of the 13 physiologic forms recorded, forms 64 to 69, inclusive, are stated not to have been previously described in literature. Form 64 gave type 4 reaction on the Malakoff, Carina, Brevit, Webster, and Loros, and type *x* reaction on the Mediterranean, Hussar, and Democrat differential varieties; form 65 gave type 4 reaction on Malakoff, Webster, Loros, and Hussar, type 2 on Carina and Brevit, and 0-1 type on Mediterranean and Democrat; form 66 gave type 4 reaction on all the varieties; form 67 gave type 4 reaction on Malakoff, Webster, Loros, Hussar, and Democrat, type 2 on Carina and Brevit, and type 0 on Mediterranean; form 68 gave type 2-3 on all the varieties, except on Webster, on which the reaction was of type 1-2, and on Malakoff which was immune from it; and form 69 gave type 2-3 reaction on all of the varieties. [These new forms are distinct from forms 66 to 69 described by Florence M. Roberts [ibid., xv, p. 707], who states in a footnote that she used international numbers assigned by C. O. Johnston in January, 1935; and from forms with similar numbers described by Sibilia: ibid., xvi, p. 89.]

BARMENKOV, A. S. and RASHEVSKAYA, V. F.

"Occurrence of Physiological Strains of Puccinia Triticina Er. in the Soviet Union in 1935", Zashchita rasteniy, No. 10, 1936.

BARMENKOV, A. S.

Geographical Distribution of Races of Puccinia triticina Erikss. f. tritici in the USSR

SO - ~~SIRA SI-90-53~~, 15 December 1953

Itogi Nauchno-Issledovatel'skikh Rabot Vsesoyuznogo Instituta Zashchity Rasteniy za 1936 Goda, part 1, 1937, pp. 154-15 , 423.92 L541

SO -SIRA SI 90-53, 15 December 1953

BARMENKOV, A. S.

Measuring the Susceptibility to Infection of Standard and Prospective Varieties of Wheat by the Most Widely Distributed Races of Puccinia triticina Erikss. in the USSR

~~SO - SIRA SI 90-53~~, 15 ~~December 1953~~

Itogi Nauchno-Issledovatel'skikh Rabot Vsesoiuznogo Instituta Zashchity Rastenii za 1936 Goda, PART 1, 1937, pp. 154-1[illegible], 423.92 L541

SO - SIRA SI 90-53, 15 December 1953

BARMENKOV, A. S.

A Micro-chamber for Estimating the Resistance of Cereals" to Rust

~~SO - SIRA SI 90-53, 15 December 1953~~

Biulleten' Vsesoiuznoi Akademii Sel'skokhoziaistvennykh Nauk imeni V. I. Lenina,
no. 3, 1937, p. 29-30. 20 Akl

SO - SIRA SI 90-53, 15 December 1953

BARMENKOV, A. S. and Panchenko, N.

A Micro-chamber for Estimating the [illegible] state of Cereals [illegible]

SO - SIRA SI-~~90-53~~, ~~15 December 1953~~

Zashchita Rastenii, no. 14, 1937, pp. 73-79. 421 P942

SO - SIRA SI 90-53, 15 December 1953

BARMENKOV, A.S.

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

AM

**Barmenkoff** (A. S.). Оценки поражаемости стандартных и перспективных сортов Пшеницы наиболее распространенными в СССР расами **Puccinia triticina Erikss.** [Evaluation of the damage caused to the standard and new Wheat varieties by the most widespread races of *Puccinia triticina* Erikss. in the U.S.S.R.]—*Pl. Prot., Leningr., 1939*, 18, pp. 158-161, 1939.

Of the 79 winter and summer standard wheat varieties artificially infected at an early stage of growth with the eight most common races of *Puccinia triticina* in the U.S.S.R. [*R.A.M.*, xvii, pp. 436, 437], only two (Kanred × Fulcaster 236319 and 266287) proved to be highly resistant to all eight races (Nos. 10, 13, 20, 17, 65, 66, 67, and 69), while 60 were highly susceptible and 17 varied in their reaction to the different races.

COMMON ELEMENTS

MATERIALS INDEX

OPEN

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

BARMENKOV, A. S.

Differentiation of Physiologic Races of Puccinia graminis tritici (Pers.) Erikss., Doklady Vsesoiuznoi Akademii Sel'skokhoziaistvennykh Nauk Imeni V. I. Lenina, vol. 4, no. 10, 1939, pp. 20-22. 2 Al1

SO - SIRA SI 90-53, 15 December 1953

BARMENKOV, A. S.

Evaluation of the Damage Caused to the Standard and New Wheat Varieties by the Most Widespread Races of Puccinia triticina Eriks. in the USSR

SO - SIRA SI-90-53, 15 December 1953

Zashchita Rastenii, no. 18, 1939, pp. 159-161. 421.9 Z2

SO - SIRA SI 90-53, 15 December 1953

BARMENKOV, A. S.

Barmenkov, A. S. "The effect of immune stock and wild varieties on the development of the virus of 'leaf curl' in Egyptian types of cotton", Doklady (Mosk. s.-kh. akad. im. Timiryazeva), Issue [illegible], 1948, (In index: 1949), p. 1[illegible]-35.

SO: U-411, 17 July 53, (Letopis' Zhurnal 'nykh Statey, No. 20, 1949).

BARMENKOV, A.S.

On prolonged preservation of microbial cultures. Analele biol 14 no.1:178-180 Ja-Mr '60.

BARMENKOV, A.S.; FEDOTOVA, M.V.; YEROSHIN, V.K.; GUSAKOVA, Ye.G.; OGAREVA, O.B.

Improved method for producing 11- -hydrozyprogesterone. Med. prom. 15 no.3:39-40 Mr '61. (MIRA 14:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S.Ordzhonikidze.
(PROGESTERONE)

BARMENKOV, A.S.; BALASHEVA, Ye.G.

Biological transformation of 16 , 17 -dihydroxy progesterone using the fungus Rhizopus nigricans. Med.prom. 16 no.7:45-46 Jl '62. (MIRA 15:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S.Ordzhonikidze.

(RHIZOPUS) (PROGESTERONE)

KOGAN, Leonid.M.; YELIN, E.A.; BARMENKOV, A.S.; TORGOV, I.V.

Microbiological transformations of steroids. Report No.4: Oxidation of pregnenolone by means of Rhizopus nigricans VNIKhFI-7. Izv. AN SSSR Ser. khim. no.11:2016-2021 N '64
(MIRA 18:1)

1. Institut khimii prirodnykh soyedineniy AN SSSR.

KOGAN, Leonid M.; ULEZLO, I.V.; YELIN, E.A.; BARMENKOV, A.S.; SKRYABIN, G.K.;
TORGOV, I.V.

Study of the transformation of steroids with the help of Actinomyces albus 3006. Izv. AN SSSR. Ser. biol. no.4:581-584 Jl-Ag '65.
(MIRA 18:7)

1. Institut khimii prirodnykh soyedineniy AN SSSR i Institut mikrobiologii AN SSSR.

TIMOFEYEVA, A.G.; BARMENKOV, A.S.; FEDOTOVA, M.V.

Method for obtaining 11 $\alpha$-oxyprogesterone by microbiologic hydroxylation of progesterone; concerning the synthesis of cortisone. Med.prom. 11 no.7:23-26 Jl '57. (MIRA 10:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S.Ordzhonikidze.
(PROGESTERONE)

BARMENKOV, A.S.

Standard culture material in the biosynthesis of durgs.
Med.prom. 12 no.10:9-12 S'58 (MIRA 11:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S. Ordzhonikidze.
(ANTIBIOTICS)
(DRUG INDUSTRY)

BAYCHIKOV, A.G.; BARMENKOV, A.S.; YEROSHIN, V.K.

Biosynthesis of steroids by microorganisms. Med.prom. 13 no.6:15-31 Je '59. (MIRA 12:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S.Ordzhonikidze.
(STEROIDS)

BARISHKOV, A.S.; [illegible]IN, V.K.

Intensification of the microbiological process of obtaining 11α-oxyprogesterone. Med.prom. 13 no.7:51-52 Jl '59. (MIRA 12:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S.Ordzhonikidze.
(PROGESTERONE)

BARMENKOV, A.S.

Prolonged storage of microbe cultures. Mikrobiologiia 28 no.3:
444-446 My-Je '59. (MIRA 13:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy
institut im. S. Ordzhonikidze, Moskva.
(FUNGI, culture
method for prolonged storage (Rus))
(ACTINOMYCES, culture
same)

BARMENKOV, A.S.; YEROSHIN, V.K.

Method of controlling the process of hydroxylation of progesterone in 11a-exyprogesterone. Med.prom. 14 no.4:40-41 Ap '60.
(MIRA 13:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S. Ordzhonikidze.
(PROGESTERONE)

BARMENKOV, O.A.; KORNILOV, S.A.; LOMAKIN, G.V.

Theoretical and experimental investigations of frequency dividing klystrons with preliminary bunching. Radiotekh.i elektron. 6 no.6: 943-953 Je '61. (MIRA 14:6)

1. Leningradskiy politeknicheskiy institut im. M.I.Kalinina.
(Klystrons)

24466
S/109/61/006/006/007/016
D204/D303

24910

AUTHORS: [illegible], O.A., Kornilov, S.A., and [illegible], G.V.

TITLE: A theoretical and experimental study of klystron dividers with pre-bunching

PERIODICAL: Radiotekhnika i elektronika, v. 6, no. 6, 1961, [illegible] 953

TEXT: The results of experimental analysis of klystron dividers have been presented in Ye.N. Bazarov, and M.Ye. Zhabotinskiy (Ref. 1: Preobrazovaniye chastoty na otrazhatel'nom klistrone, Radiotekhnika i elektronika, 1959, 4, 2, 253), and (Ref. 3: Deleniye chastoty na otrazhatel'nom klistrone, Radiotekhnika i elektronika, 1956, 1, 5, [illegible]). In quantitative assessment of the performance of the special klystron divider as used in S.A. Kornilov (Ref. 4: Radiotekhnika i elektronika, 1960, 5, 3, 356), certain additional factors have to be taken into account. These factors are: simultaneous modulation [illegible] of the density and velocity of the beam on the [illegible] of frequency division and the influence

Card 1/[illegible]

2[illegible]

S/109/6[illegible]/[illegible]6/0[illegible]/[illegible]7/016
D.04[illegible]D50[illegible]

A theoretical [illegible]

of the nonlinearity of potential distribution in the retardation space. In the [illegible] article the authors give the results of a numerical analysis of the above factors and of a detailed experimental study of a klystron divider which enables an exact assessment and comparison of both theoretical and experimental data. The analysis is made for a klystron divider dividing by two. Both straight and reflex klystron dividers are analyzed concurrently. The theory of the straight klystron divider with no a[illegible] velocity component is presented in [illegible] A. Kornilov (Ref. 1. Deleniye chastoty v pryamoproletnom klistrone s [illegible] zazorami. Radiotekhnika i elektronika, [illegible] 34, 522). The theory of reflex divider with velocity modulation only has been given in Ref. 2 (Op. cit.). In the present analysis it is assumed that there is no regeneration at the first [illegible]. Assuming small bunching of the beam entering the regenerative region of the klystron, the authors obtain the fundamental component of divided frequency in which the Fourier coefficients are determined. In a straight klystron divider, the simultaneous bunching action and velocity modulation of the beam increa-

Card 2/6

ses the division range. The influence of the non-linearity of potential distribution in the bunching region is considered next. For a reflex klystron the bunching angle $\theta_{o2b} = \alpha\theta_{o2}$ should be introduced. Since in practice the coefficient of bunching increase $\alpha$ can be made easily much larger than unity, the non-linear potential distribution could be used to decrease the required input power to the klystron divider. This can be done provided that the electron stream be velocity modulated at the input of the regeneration region. The experimental part is then described using a reflex klystron frequency divider, the construction of which is shown in Fig. 2. The picture of equipotential line distribution (for ± 2 % supply voltage variation) and the electron trajectories are shown in Fig. 3. Point A corresponds in this picture to the boundary of the grid of the 3rd diaphragm, B - to that of the fifth. To determine the value of the amplification of the bunching coefficient, trajectories 2-I. 2-II and 2-III were constructed and by graphical integration the transit time of electrons along these characteristics have been evaluated. The value obtained for "$\alpha$"

24466

S/109/61/006/006/007/016
D204/D303

A theoretical and ...

was a = 6.4. The study of static current flow has confirmed the assumption that in working conditions the beam has a very small convergence, its diameter varying [illegible] mm at the output and 8 mm at the input. To evaluate the accuracy of experimental determination of parameters of bunching, theoretical and experimental evaluation of the magnitude of the optimum parameter, for the klystron working as an amplifier, was determined. The discrepancy did not exceed 15 %. The theoretical and experimental amplitude characteristics of the divider are given graphically; they are in good agreement. Finally the resonance characteristics of division are shown, the amplitude of HF voltage and its phase being drawn against frequency at the input. It is pointed out that the present article refers only to a divider dividing by two. The characteristic of a klystron performing multiple frequency divisions are given in Ref. 4 (Op.cit.). There are 7 figures and 5 references: 4 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: D. Hamilton. J. Kuper, J. Knipp, Klystrons and microwave triodes, N.Y., 1948.

Card 4/6

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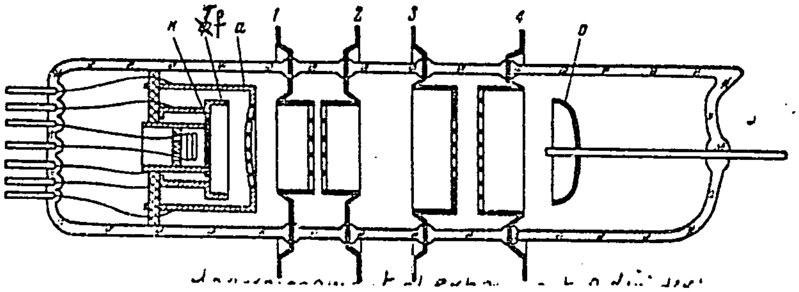
ASSOCIATION: Leningradskiy politekhnicheskiy institut im. M.I. Kalinina (Leningrad Polytechnic Institute im. M.I. Kalinin)

SUBMITTED: July 28, 1960

Fig. 2. The arrangement of experimental divider: k, f, a - cathode, focussing ring and anode of electron gun respectively; 1, 2, 3, 4, - diaphragms; o - reflector.



Card 5/6

GLADKOV, V.A.; ARSEN'YEV, Yu.I.; LAVRENKOV, K.A.;

[Draft-cooling towers; calculation and design] Ventiliatornye gradirni; raschet u proektirovanie. Moskva, Stroiizdat, 1964. 158 p. (MIRA 17:10)

BARMENKOV, Ya. P.

PROCESSES AND PROPERTIES INDEX

P. 740

electrokinetic potential of starch and its role in zmic hydrolysis. Ya. P. Barmenkov. *Biokhimiya* 3, 50(1938).—With decreasing H-ion concn. the electrokinetic potential of starch increases, as does its enzymic activity, both of which reach a peak at a pH of 6.8-7.1. Starch remains electroneg. in acid as well as in alk. media. In the presence of 0.1 *N* $AlCl_3$ soln., starch becomes electropos. and is only very slowly acted upon by amylase. Preliminary treatment of starch by NaCl soln. renders it slightly more easily fermentable, whereas such treatment with $AlCl_3$ soln. completely inhibits enzymic hydrolysis. H. Cohen

Chair of Organic and Biological Chemistry, The Orenburg Inst. of Agronomy, Zootechnics and Veterinary Medicine.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

BARMENKOV, Ya. P.

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

**Mechanism of amylase activation by neutral salts.** Ya. P. Barmenkov. *Biokhimiya* 4, 360-7(1939).—Previous measurements of the elec. charge on amylase did not take into account the presence of mucin, which carries an electroneg. charge. Free amylase is electropos. The mucin-amylase complex may be predominantly electroneg. and will migrate to the pos. pole; this gives the impression that amylase itself is electroneg. NaCl will break up the adsorption mucin-amylase complex and will cause the amylase to migrate to the cathode. H. Priestley

Chair Biochem., Orenburg Inst Agronomy, Zootech. + Vet. Med.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

BA~~R[illegible], Ya. P~~

BARMENKOV, Ya. P.

The chemical nature of crystals formed during the cultivation of certain pathogenic microörganisms. Ya. P. Barmenkov and N. V. Sokk. *Trudy Chkalov. Sel'skokhoz. Inst.* 6, 106-13(1953); *Referat. Zhur. Khim., Biol. Khim.* 1955, No. 943.—The crystals consisted of $MgNH_4PO_4 \cdot 6H_2O$.

B. S. Levine

BARMENKOV, Ya. P., Doc Biol Sci -- (diss) "On the Synthesis and Decomposition of Fats in Plants." Len, 1957. 27 pp (Min of Agriculture USSR, Len Agricultural Inst), 150 copies (KL, 48-57, 105)

BATALIN, A.Kh., prof.; BARMENKOV, Ya.P., prof., red.; UDOVIN, G.M., prof., red.

[Qualitative chemical analysis of inorganic substances; a manual for students of agronomic, zootechnical, and veterinary departments of agricultural institutions of higher learning] Kachestvennyi khimicheskii analiz neorganicheskikh veshchestv; rukovodstvo dlia studentov agronomicheskikh, zootekhnicheskikh i veterinarnykh fakul'tetov sel'skokhoziaistvennykh vysshikh uchebnykh zavedenii. Orenburg, Orenburgskii sel'khoz. in-t, 1963. 293 p. (MIRA 17:3)

L 43003-65 EWT(m)/EPF(c)/T Pr-4 WE UR/0065/65/000/004/0031/0035

32

ACCESSION NR: AP5009898

31

B

AUTHOR: Medem, V. M.; Barmenkov, Ya. P.; Nazarov, I. I.; Shevtsov, D. A.; Nemkova, N. S.

TITLE: Biochemical oxidation of petroleum fractions

SOURCE: Khimiya i tekhnologiya topliv i masel, no. 4, 1965, 31-35

TOPIC TAGS: biochemistry, oxidation, bacteria, hydrocarbon, bacteriology, protein, petroleum refinery product

ABSTRACT: The biochemical oxidation of petroleum hydrocarbons with the dual result of dewaxing and producing bacterial protein has been studied in a joint effort by the Orsk Refinery and the Department of Biological and Organic Chemistry of the Orenburg Agricultural Institute. The bacterial species used (unidentified), which actively assimilate petroleum hydrocarbons, had been cultivated since 1961. The petroleum hydrocarbon feed stocks were spindle oil distillates from Emba and Shkapovo crudes, petrolatum, and diesel-fuel-type fractions. The experiments were conducted as a continuous or semicontinuous process in the apparatus shown in Fig. 1, and optimum process conditions were determined.

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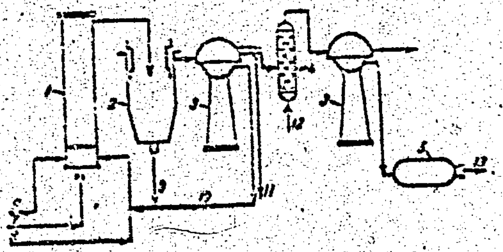

Fig. 1. Laboratory apparatus for biochemical oxidation

1 - Oxidation apparatus; 2 - settling tank; 3 - centrifuges; 4 - extraction column; 5 - dryer; 6 - petroleum feed stock; 7 - air; 8 - nutrient solution of $K_2HPO_4$, $KH_2PO_4$, $KNO_3$, $NaNO_3$, and $NH_4Cl$; 9 and 10 - nutrient solution recycle; 11 - oxidized petroleum; 12 - solvent; 13 - dry bacter[illegible] protein.

Card 2/3

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ACCESSION NR: AP5009898

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The criterion used for the biochemical oxidation rate was the change of the hydrocarbon pour point. The results of bacterial dewaxing are presented in tabular and graphic form. For example, the pour point of an Emba petroleum distillate dropped from +18 to -48° C and the percentage of paraffins at -40°C decreased from 12.6 to 0.8% after bacterial oxidation for 72 hr at 23°C and pH 7.1. The composition of the bacterial protein end-product was highly dependent on the species of bacteria, the feed stock, and the process conditions. Study of the composition of a number of bacterial samples revealed a 44.3--52.5% protein content. Determination by paper chromatography of the amino acid composition of the protein in the sample containing 52.5% protein showed that bacterial protein cultivated on a petroleum medium contains the same amino acids as animal or plant protein. Moreover, the bacterial protein contained more of the proteins essential to nutrition than cereal protein does (although less than animal protein). The authors conclude that biochemical oxidation of petroleum hydrocarbons has dual potential applications: 1) petroleum product dewaxing; 2) production of bacterial protein suitable as a livestock food supplement. Orig. art. has 3 figures, 1 graph, and 4 tables.

ASSOCIATION: Orskiy NPZ

SUBMITTED: 00 ENCL: 00 SUB CODE: FP, LS

NO REF SOV: 005 CARD 3/3 OTHER: 001 ATD PRESS: 3235-F

BARMICHEV, R.M

NOVIKOV, V.V., professor; MATVEYEV, V.M., inzhener; BARMICHEV, R.M.

Lighting tests on retroreflectors. Svetotekhnika 3 no.2:19-21 F '57.
(MLRA 10:3)

1. Gosudarstvennyy opticheskiy institut.
(Reflectors)

NOVIKOV, V.V., prof.; BERSENEV, Ye.I.; BARMICHEV, R.M.

Remarks concerning S.V Batusov and D.T.Zaberezhnyi's article.
Svetotekhnika 7 no.12:23-24 D '61. (MIRA 14:12)

1. Gosudarstvennyy opticheskiy institut.
(Electric lighting) (Batusov, S.V.) (Zaberezhnyi, D.T.)

GUREVICH, I.G.; SIMKIN, M.M.; ATABEKOV, G.I., doktor tekhnicheskikh nauk, professor, redaktor; BARMICHEV, V., redaktor; ALEKSANDROVICH, Kh., tekhnicheskiy redaktor.

[Crystal triodes and their uses] Kristallicheskii triod i ego primenenie. Pod.red.G.I.Atabekova, Minsk, Izd-vo Akad.nauk BSSR, 1957. 219 p. (MLRA 10:5)

(Transistors)